

1 1. An isolated nucleic acid molecule selected from the group consisting of:
2 a) a nucleic acid molecule comprising a nucleotide sequence which is at least
3 55% identical to the nucleotide sequence of SEQ ID NO:1, 3 or a complement thereof;
4 b) a nucleic acid molecule comprising a fragment of at least 300 nucleotides
5 of the nucleotide sequence of SEQ ID NO:1, 3 or a complement thereof;
6 c) a nucleic acid molecule which encodes a polypeptide comprising the
7 amino acid sequence of SEQ ID NO:2;
8 d) a nucleic acid molecule which encodes a fragment of a polypeptide
9 comprising the amino acid sequence of SEQ ID NO:2, wherein the fragment comprises at
10 least 15 contiguous amino acids of SEQ ID NO:2; and
11 e) a nucleic acid molecule which encodes a naturally occurring allelic variant
12 of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the
13 nucleic acid molecule hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, 3
14 or a complement thereof under stringent conditions.

1 2. The isolated nucleic acid molecule of claim 1, which is selected from the
2 group consisting of:

3 a) a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, 3, or
4 a complement thereof; and
5 b) a nucleic acid molecule which encodes a polypeptide comprising the
6 amino acid sequence of SEQ ID NO:2.

1 3. The nucleic acid molecule of claim 1 further comprising vector nucleic
2 acid sequences.

1 4. The nucleic acid molecule of claim 1 further comprising nucleic acid
2 sequences encoding a heterologous polypeptide.

1 5. A host cell which contains the nucleic acid molecule of claim 1.

1 6. The host cell of claim 5 which is a mammalian host cell.

1 7. A non-human mammalian host cell containing the nucleic acid molecule
2 of claim 1.

1 8. An isolated polypeptide selected from the group consisting of:

a) a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2;

b) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, 3 or a complement thereof under stringent conditions; and

c) a polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 65% identical to a nucleic acid consisting of the nucleotide sequence of SEQ ID NO:1, 3, or a complement thereof.

9. The isolated polypeptide of claim 8 comprising the amino acid sequence of SEQ ID NO:2.

10. The polypeptide of claim 8 further comprising heterologous amino acid sequences.

11. An antibody which selectively binds to a polypeptide of claim 8.

12. A method for producing a polypeptide selected from the group consisting of:

a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2;

b) a polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:2, wherein the fragment comprises at least 15 contiguous amino acids of SEQ ID NO:2; and

c) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, 3, or a complement thereof under stringent conditions;

comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.

13. A method for detecting the presence of a polypeptide of claim 8 in a sample, comprising:

a) contacting the sample with a compound which selectively binds to a polypeptide of claim 8; and

b) determining whether the compound binds to the polypeptide in the sample.

1 14. The method of claim 13, wherein the compound which binds to the
2 polypeptide is an antibody.

1 15. A kit comprising a compound which selectively binds to a polypeptide of
2 claim 8 and instructions for use.

1 16. A method for detecting the presence of a nucleic acid molecule of claim 1
2 in a sample, comprising the steps of:

3 a) contacting the sample with a nucleic acid probe or primer which
4 selectively hybridizes to the nucleic acid molecule; and

5 b) determining whether the nucleic acid probe or primer binds to a nucleic
6 acid molecule in the sample.

1 17. The method of claim 16, wherein the sample comprises mRNA molecules
2 and is contacted with a nucleic acid probe.

1 18. A kit comprising a compound which selectively hybridizes to a nucleic
2 acid molecule of claim 1 and instructions for use.

1 19. A method for identifying a compound which binds to a polypeptide of
2 claim 8 comprising the steps of:

3 a) contacting a polypeptide, or a cell expressing a polypeptide of claim 8
4 with a test compound; and

5 b) determining whether the polypeptide binds to the test compound.

1 20. The method of claim 19, wherein the binding of the test compound to the
2 polypeptide is detected by a method selected from the group consisting of:

3 a) detection of binding by direct detecting of test compound/polypeptide
4 binding;

5 b) detection of binding using a competition binding assay;

6 c) detection of binding using an assay for CARD-12-mediated signal
7 transduction;

8 d) detection of binding using an assay for proteolytic activity; and

9 e) detection of binding of a CARD-12 to a CARD domain.

1 21. A method for modulating the activity of a polypeptide of claim 8
2 comprising contacting a polypeptide or a cell expressing a polypeptide of claim 8 with a

3 compound which binds to the polypeptide in a sufficient concentration to modulate the
4 activity of the polypeptide.

1 22. A method for identifying a compound which modulates the activity of a
2 polypeptide of ~~claim 8~~, comprising:

- 3 a) contacting a polypeptide of claim 8 with a test compound; and
- 4 b) determining the effect of the test compound on the activity of the
- 5 polypeptide to thereby identify a compound which modulates the activity of the
- 6 polypeptide.

1 23. A method of treating a disorder associated with inappropriate apoptosis,
2 the method comprising modulating the expression or activity of CARD-12.

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